



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of U.S. Appln. No. Confirmation No.) Art Unit:) Examiner:	1632 To be assigned
U.S. Filing Date Title of Invention	:. November 26, 2003 : EXPRESSION VECTOR, HETEROLOGOUS GENE F OF RECOMBINANT CELL PRODUCTS	PRODUCTS AND	FOR THE SELECTION
Attny. Docket No	.: 1/1412		
Mail Stop Amend Commissioner for P. O. Box 1450 Alexandria, VA 2	Patents		
June 21, 2004			
TRANSMITT	TAL LETTER FOR INFOR	MATION DISCI	LOSURE STATEMENT
Sir:			
Transmitted herest Statement (Form hereinbelow.	with concerning the subject ap 1449A/B) under 37 C.F.R. §§	pplication is an Inf 1.56 and 1.97, as	Formation Disclosure more specifically described
§1.53 (d); ii) with 37 C.F.R. §1.491 on the merits; or	This Statement is being application other than a continuin three (3) months of the dat in an international application iv) before the mailing of a first action under 37 C.F.R. §1.114	nued prosecution e of entry of the n n; iii) before the n st Office action aft	ational stage as set forth in nailing of a first Office action
notice of allowan	This Statement is being but before the mailing date of ce under 37 C.F.R. §1.311, or This Statement is being acc	i) a final action u	ınder 37 C.F.R. §1.113, ii) a
A	statement as specified in 37	C.F.R. §1.97(e) [s	ee below]; or
П ті	ne fee set forth in 37 C.F.R. §	1.17(p).	

	The Commissioner is hereby authorized to charge payment of the \$180.00 fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 02-2955.
§1.97(c) b	This Statement is being filed after the period specified in 37 C.F.R. ut on or before payment of the issue fee. This Statement is accompanied by a as specified in 37 C.F.R. §1.97(e) [see below] and the fee set forth in 37 C.F.R.
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CO	Each item of information contained in the instant information disclosure attement was first cited in any communication from a foreign patent office in a contempart foreign application not more than three (3) months prior to the filing of the instant information disclosure statement; or
for ma inf §1	No item of information contained in the instant information disclosure attement was cited in a communication from a foreign patent office in a counterpart reign application, and, to the knowledge of the person signing this certification after aking reasonable inquiry, no item of information contained in the instant formation disclosure statement was known to any individual designated in 37 C.F.R56(c) more than three (3) months prior to the filing of the instant information sclosure statement.
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	The Commissioner is hereby authorized to charge payment of the \$180.00 fee set forth in 37 C.F.R. §1.17(p) to Deposit Account No. 02-2955.
disclosure counterpa in section	Each item of information contained in the accompanying information e statement was cited in a communication from a foreign patent office in a rt application, which communication was not received by any individual designated 1.56(c) more than thirty (30) days prior to the filing of the accompanying on disclosure statement.

The Commissioner is hereby authorized to charge payment of any additional filing fees required under 37 C.F.R. §1.16 and any patent application processing fees under 37 C.F.R. §1.17, or credit any overpayment of same, to Deposit Account No. 02-2955.

Triplicate copies of this form are enclosed.

Respectfully submitted,

Susan K. Pocchiari

Attorney for Applicant(s)

Reg. No. 45,016

Patent Department Boehringer Ingelheim Corp. 900 Ridgebury Road, P.O. Box 368 Ridgefield, CT 06877 Tel: (203) 798-4868 Certificate of Mailing

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number 10/724,266 November 26, 2003 Filing Date Barbara Enenkel et al First Named Inventor Art Unit 1632 Examiner Name To be assigned 1/1412

(Use as many sheets as necessary Attorney Docket Number Sheet

			U.S. PATENT	DOCUMENTS	Pages, Columns, Lines, Where
Examiner Initials*	Cite No.1	Document Number Number-Kind Code ^{2 (# known)}	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
	<u> </u>	US- 6,063,598	05/16/2000	Barbara Enenkel et al	
		^{US-} 4,656,134	04/07/1987	Gordon M. Ringold	
		US- 5,179,017	01/12/1993	Richard Axel et al	
		^{US-} 5,491,084	02/13/1996	Martin Chalfie et al	
		^{US-} 6,146,826	11/14/2000	Martin Chalfie et al	•
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		WO 97/15664	05/01/1997	Dr. Karl Thomae GmbH	4114**********************************	<u> </u>
		WO 98/32869	07/30/1998	Neurosearch		<u> </u> _
	†	WO 02/094325 A2	11/28/2002	Boehringer Ingelheim International GmbH	\$	<u> </u>
		WO 01/04306 A1	01/18/2001	Genentech, Inc.		↓
,		WO 99/53046	10/21/1999	Chiron Corporation		<u> </u>

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Substitute for form 1449A/PTO

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Application Number 10/724,266 Filing Date Novemebr 26, 2003 First Named Inventor Barbara Enenkel et al Art Unit 1632 Examiner Name To be assigned

(Use as many sheets as necessary) Attorney Docket Number 1/1412 5

Examiner	Cite	Document Number	U. S. PATENT D Publication Date	Name of Patentee or	Pages, Columns, Lines, Where Relevant Passages or Relevant
Initials*	Cite No.1	Number-Kind Code ² (# known)	MM-DD-YYYY	Applicant of Cited Document	Relevant Passages or Relevant Figures Appear
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			First Named Inventor	Barbara Enenkel et al	
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		NON PATENT LITERATURE DOCUMENTS	
Examiner Initials*	Cite	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city	T²
	110.	CHARLES G. BAILEY ET AL; High-Throughput Clonal Selection of Recombinant CHO Cells Using a Dominant Selectable and Amplifiable Metallothionein-GFP Fusion Protein; Biotechnology and Biomolecular 12/20/2002 Vol. 7 page 670-676; Wiley Periodicals, Inc.	
		XUEDONG LIU ET AL; Generation of Mammalian Cells Stably Expressing Multiple Genes at Predetermined Levels; Analytical Biochemistry (2000) Vol. 9 pages 20-28; Academic Press	
		ROBERT P. BENNETT ET AL; Fusion of Green Fluorescent Protein with the Zeocin TM-Resistance Marker Allows Visual Screening and Drug Selection of Transfected Eukaryotic Cells; Biotecniques (March 1998) Vol. 24 No. 3 pages 478-482; Invitrogen Corporation, Carlsbad, CA. USA	
		Y. GLORIA MENG ET AL; Green fluorescent protein as a second selectable marker for selection of high producing clones from transfected CHO cells; Gene (2000) Vol. 242 pages 201-207; Elsevier Science B.V.	
		D.D. MOSSER ET AL; Use of a Dicistronic Expression Cassette Encoding the Green Fluorescent Protein for the Screening and Selection of Cells Expressing Inducible Gene Products; Biotechniques (January 1997) Vol. 22 No. 1 pages 150-161; National Research Council, Montreal Canada	
,		NO SOO KIM ET AL; Key Determinants in the Occurance of Clonal Variation in Humanized Antibody Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification; Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification; Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification; Expression of CHO Cells during Dihydrofolate Reductase Mediated Gene Amplification;	
		ROLF G. WERNER ET AL; Appropriate Mammalian Expression Systems for Biopharmaceuticals; Drug Research (1998) Vol. 8 pages 870-880; Boehringer Ingelheim Pharma KG, Biberach Germany	
***************************************		GAIL URLAUB ET AL; Delection of the Diploid Dihydrofolate Reductase Locus from Cultured Mammalian Cells; Cell (June 1983) Vol. 33 pages 405-412; Department of Biological Sciences Columbia University, New York, NY.	
		YOSHIKAZU SUGIMOTO ET AL; Efficient Expression of Drug-selectable Genes in Retroviral Vectors Under Control of an Internal Ribosome Entry Site; Biotechnology (July 1994) Vol. 12 pages	
		N. RAMESH ET AL; High-titer bicistronic retroviral vectors employing foot-and-mouth disease virus internal ribosome entry site; Nucleic Acids Research (1996) Vol. 24 No. 14 pages 2697-2700; Oxford University Press	d

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INFO	RMATION DI	SCLO	SURE	Filing Date	Novemebr 26, 2003
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Sheet	4	of	5	Attorney Docket Number	1/1412

NON PATENT LITERATURE DOCUMENTS					
Examiner Cite Initials* Cite No. Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, and/or country where published.		T²			
		MICHAEL PRIMIG 1 ET AL; A novel GFPneo vector designed for the isolation and analysis of enhancer elements in transfected mammalian cells; International Journal of Genes and Genomes (1998) Vol 215 pages 181-189; Elsevier Science B.V.			
		JERRY PELLETIER ET AL; Internal initiation of translation of eukaryotic mRNA directed by a sequence derived from poliovirus RNA; Nature (July 1988) Vol. 334 pages 320-325; Department of Biochemistry McGill Cancer Center, McGill University Montreal Canada			
		RICHARD A. MORGAN ET AL; Retroviral vectors containing putative internal ribosome entry sites: development of a polycistronic gene transfer system and applications to human gene therapy; Nucleic Acids Research (February 10, 1992) Vol. 20 No. 6 pages 1293-1299; Molecular Hematology Branch, Bethesda MD.			
		LUCIA MONACO ET AL; Expression of recombinant human granulocyte colony-stimulating factor in CHO dhfr -cells: new insights into the in vitro amplification expression system; Gene (1996) Vol. 180 pages 145-150; Elsevier Science B.V.			
		VICTOR V. LEVENSON ET AL; Internal Ribosomal Entry Site-Containing Retroviral Vectors with Green Fluorescent Protein and Drug Resistance Markers; Human Gene Therapy (May 20, 1998) Vol. 9 pages 1233-1236; Department of Molecular Genetics, University of IL. Chicago, IL.			
		RANDAL J. KAUFMAN; Selection and Coamplification of Heterologous Genes in Mammalian Cells; Methods in Enzymology Vol. 185 No. 42 pages 537-566; Academic Press, Inc.			
		SUNG K. JANG ET AL; Initiation of Protein Synthesis by Internal Entry of Ribosomes into the 5' Nontranslated Region of Encephalomyocarditis Virus RNA In Vitro; Journal of Virology (April 1989) Vol. 63 No. 4 Pages 1651-1660; American Society for Microbiology			
		CORD HEMANN ET AL; High-Copy Expression Vector Based on Amplification-Promoting Sequences; DNA and Cell Biology (1994) Vol. 13 No. 4 Pages 437-445; Mary Ann Liebert, Inc Publishers			
		ALEXANDER N. GUBIN ET AL; Long-Term, Stable Expression of Green Fluorescent Protein in Mammalian Cells; Biochemical and Biophysical Research Communications (1997) Vol. 236 pages 347-350. Academic Press			
		MARTIN CHALFIE ET AL; Green Fluorescent Protein as a Marker for Gene Expression; Science (February 11, 1994) Vol. 263 pages 802-805; Department of Biological Sciences, Columbia University New York, NY			

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1	Signature	Considered	

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		MONIQUE V. DAVIES ET AL; The Sequence Context of the Initiation Codon in the Encephalomyocarditis Virus Leader Modulates Efficiency of Internal Translation Initiation; Journal of Virology (April 1992) Vol. 66 No. 4 pages 1924-1932; American Society for Microbiology		
		MOHAMMED A. ADAM ET AL; Internal Initiation of Translation in Retroviral Vectors Carrying Picornavirus 5' Nontranslated Regions; Journal of Virology (September 1991) Vol. 65 No. 9 pages 4985-4990; American Society for Microbiology		
		RANDAL J. KAUFMAN ET AL; Amplification and Expression of Sequences Cotransfected with a Modular Dihydrofolate Reductase Complementary DNA Gene; J. Mol. Biol. (1982) Vol. 159 pages 601-621; Center for Cancer Research and Department of Biology, Cambridge Mass.		
		International Search Report Refernce No. PCT/EP 03/13225		
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